PHENOTYPING MUCOSAL T-CELLS IN HIV- AND HIV+ WOMEN WITH OR WITHOUT PRECANCEROUS CERVICAL LESIONS/ INVASIVE CANCER

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Background
Precancerous cervical cancer lesions and invasive cervical cancer (CC) cases are most frequent in Tanzanian women, particularly those living with HIV. Yet, little knowledge exists regarding the dynamics of cervical derived T cells in the context of HIV, precancerous cervical lesions and CC. To gain insight into this phenomenon, we characterized cervical de rived T cells of women within an on-going study in Mbeya, Tanzania.

Methodology
Cervical brush specimens were collected from women of known HIV was then determined by Pap smear and histologic examination where HIV+ and HIVwomen with CC, High Grade Intraepithelial Lesions (HSIL) or Low Grade Intraepithelial Lesion (LSIL) are categorized as "cases" whereas women with normal cervix cytology are termed "controls". T cell phenotypes were defined by multiparametric flow cytometry based on their expression of markers of activation (HLA-DR) and HIV acquisition (CCR5, α4β7).

Results
A total of 293 participants were included in this analysis, of which 173 (59%) were HIV+ (HIV+ controls= 126; HIV+cases= 47) while the rest were HIV uninfected (HIV-controls= 93; HIV-cases= 27). Cervical derived CD4 and CD8 T cells of HIV+ women expressed higher frequencies of the activation marker, HLADR when compared to HIV uninfected individuals ($p<0.003$ for both). Overall, median expression of CCR5 and α4β7 on CD4+ T cells of all study subjects was 19% and 10.6% respectively. Expression of HLA-DR, CCR5 and α4β7 on CD4 T cells was similar between women with or without CC/ precancerous lesions in both HIV- and HIV+ women.

Conclusion:
recancerous cervical lesions and CC were associated with higher levels of activation in cervix derived T cells in both HIV- and HIV+ women. This may in turn influence HIV infection and/or progression as well as acceleration and/or poor prognosis of CC. Further analysis should be done to further evaluate the immunological risk factors leading to a high rate of CC especially in HIV+ women in more detail.